

HIGH CARBON STEEL SHEET AND PRODUCTION METHOD THEREOF

This application is a divisional application of Application Serial No. 09/961,843 filed September 24, 2001, ^{now U.S. Pat. No. 6,652,671} (now allowed), which is a continuation application of International Application PCT/JP01/00404 filed January 23, 2001.

R
Sheld

TECHNICAL FIELD

The present invention relates to a high carbon steel sheet having chemical composition specified by JIS G 4051 (Carbon steels for machine structural use), JIS G 4401 (Carbon tool steels) or JIS G 4802 (Cold-rolled steel strips for springs), and in particular to a high carbon steel sheet having excellent hardenability and toughness, and workability with a high dimensional precision, and a method of producing the same.

BACKGROUND ART

High carbon steel sheets having chemical compositions specified by JIS G 4051, JIS G 4401 or JIS G 4802 have conventionally much often been applied to parts for machine structural use such as washers, chains or the like. Such high carbon steel sheets have accordingly been demanded to have good hardenability, and recently not only the good hardenability after quenching treatment but also low temperature - short time of quenching treatment for cost down and high toughness after quenching treatment for safety during services. In addition, since the high carbon steel sheets have large planar anisotropy of mechanical properties caused by production process such as hot rolling, annealing and cold rolling, it has been difficult to apply the high carbon steel sheets to parts as gears which